



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/051,901	01/17/2002	William H. Zebuhr	105019-0008	3356
25181	7590	06/21/2004	EXAMINER	
FOLEY HOAG, LLP PATENT GROUP, WORLD TRADE CENTER WEST 155 SEAPORT BLVD BOSTON, MA 02110			MANOHARAN, VIRGINIA	
			ART UNIT	PAPER NUMBER
			1764	

DATE MAILED: 06/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/051,901

Applicant(s)

ZEBUHR, WILLIAM H.

Examiner

Virginia Manoharan

Art Unit

1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 August 2003.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-20 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

The specification has not been checked to the extent necessary to determine the presence of all possible minor, e.g., typographical, grammar, idiomatic, syntax and etc. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claims 18-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The preamble of claim 18 recites "A heat exchanger", however, the body of the claim appears to recite a distillation system i.e. including an evaporating and condensing chamber. A heat exchanger is a distinct device from a distillation system. The former is either an evaporator or a condenser, unlike the latter, which is comprised of both the evaporator and condenser.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-5 and 12-20 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 4-12, 16-23 and 26-35 of copending Application No. 09/609,881 in view of Porter et al and Etheridge.

Although the conflicting claims are not identical, they are not patentably distinct from each other because the structural elements in the instant claims are covered in the claims of the above copending application and vice versa. The difference seen, is that claim 1 of the instant application recites that the "evaporating chambers are closed at their outer edges and opened at their inner edges... The condensing chamber are open at their outer edges, are closed at their inner edges... "whereas, the claims of the above copending application recites that "the evaporating chambers are sealed at their inner edges and are open at their outer edges... Condensing chambers are open at their inner edges and are sealed at their outer edges." However, this difference does not constitute a patentable distinction because it is deemed merely a matter of reversing, shifting and/or relocating one part over the other, i.e, an obvious variation(s) of each other, a variation(s) that is well within the purview of an artisan. This is evident from Porter and Etheridge teachings as indicated below.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 1-5 and 12-20 are provisionally rejected under the judicially created doctrine of double patenting over claims 4-12, 16-23 and 26-35 of copending

Application No. 09/609,881. This is a provisional double patenting rejection since the conflicting claims have not yet been patented.

The subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and the instant application are claiming common subject matter, as follows: an apparatus which is comprised in combination of a housing; a motor for supplying rotary power within the housing; a compressor having a compressor inlet for receiving a vapor generated within the housing and a compressor outlet for returning compressed vapor to the housing; a heat exchanger plate disposed within the housing and operatively coupled to the motor for rotation about an axis, the heat exchanger plate having a plurality of folds and two opposing edges that are joined together so as to give the folded plate a generally circular shape; plurality of spaced-apart panels having corresponding surfaces that define alternating evaporating and condensing chambers between opposing panel surfaces: A first end plate and a second end plate disposed within the housing substantially perpendicular to the axis of rotation, the folded heat exchanger plate mounted between the first and second end plates so as to seal the evaporating chambers from the condensing chambers. Wherein the housing includes a lower portion defining a sump containing the liquid to be distilled; and at least one rotary scoop tube coupled to the second end plate and extending into the sump.

Furthermore, there is no apparent reason why applicant would be prevented from presenting claims corresponding to those of the instant application in the other

copending application. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-9, 12-13 and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Porter et al ((4,731,159) in view of Etheridge (2,953,110).

Porter et al discloses substantially features of the apparatus as claimed. See e.g., the claims at columns 6-8. The apparatus of Porter differs from the claimed invention in that claim 1 recites that... "...the evaporating chambers are closed at their outer edges by corresponding folds in the heat exchanger plate, are open at their inner edges, and are in fluid communication with the outlet so as to provide vapor thereto....the condensing chambers are open at their outer edges, are closed at their inner edges by corresponding folds in the heat exchanger plate, and are in fluid communication with the inlet so as to receive vapor therefrom..." Note further claim 18.

However, the above limitation(s) in claim 1 is a known expediency in the art as taught, e.g., by Etheridge. See e.g., Figures 8-10, column 3, lines 17-72 and column 4, lines 60-69. To incorporate the apparatus of Etheridge to Porters' apparatus would have been obvious to one of ordinary skill in the art inasmuch as Porter suggests at column 3, lines 3-6, the possibility by modifying the profile of the surface and further suggests at column 4, lines 18-23 that "the condensable vapor,... is to the outer edge of the

plate..."which would presuppose that the condensing chamber receiving the vapor is open at the outer edges.

Moreover, Etheridge suggests that the arts folded metal structure having passages 16a formed with fluid as tight-joints at one of their ends and opening at their other ends and interlaced with passages 16b which have fluid-tight joints at the ends adjacent the open ends of passages 16a and an opening at their other ends can be incorporated in a heat exchange installation.(Obviously of the type disclosed by Porter). See e.g., column 3, lines 15-30 of the Etheridge's reference.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Porter et al in view of Etheridge as applied to claims 1, 3-9, 12-13 and 16-20 above, and further in view of Hickman (2,899,366) or Sears (5,968,321).

Providing a compressor coupled to the inlet and outlet of the evaporator and condenser unit, and the compressor being configured to receive vapor from the evaporating chambers, and to deliver compressed vapor to the condensing chambers, as claimed in claim 2 , to the apparatus of Porter, modified by Etheridge, would have been obvious to one of ordinary skill in the art in order to obtain the improved efficiency with compression distillation. See the teaching of at column 1, lines 50-57. See also column 4, lines 7-17 of the Sears' reference, suggesting a compressor in its evaporator/condenser unit.

Claims 10-11 and 14-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- a. Becker et al discloses an evaporator-condenser for at least two fluids passed in indirect heat-exchanging relationships through pair of plate passages.
- b. Sears '321 discloses a vapor compression distillation system and method.
- c. Burt discloses a heat exchanger with combined closing member and fluid distributor.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to V. Manoharan whose telephone number is (571) 272-1450.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

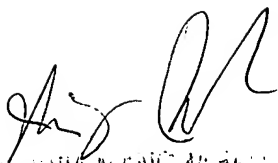
Application/Control Number: 10/051,901

Page 8

Art Unit: 1764

V. Manohara/dh

June 14, 2004


VIRGINIA MANOHARA
PRIMARY EXAMINER
ART UNIT 123/764

6/17/04